

October 4, 2001

Gregg Erickson
Graphix Unlimited
3947 State Road 106
Bremen, Indiana 46506

Re: Registered Construction and Operation Status,
099-14590-00091

Dear Mr. Erickson:

The application from Graphix Unlimited, received on June 26, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following screen printing facility, located at 3947 State Road 106, Bremen, Indiana 46506, is classified as registered:

- (a) One (1) Screen Preparation and Maintenance Department, exhausting to the atmosphere via the "Press Exhaust Stack", with a maximum capacity of 6.83 pounds per hour of cleaners, adhesives and developers.
- (b) One (1) Screen Printing Department, exhausting to "Press Exhaust", consisting of Old PLS Printing Press, New PLS Printing Press, Large Kippax Printing Press, Small Cameo Printing Press, Lawson Printing Press, Husky Printing Press, Medium Patriot Printing Press, Small Patriot Printing Press, exhausting to the atmosphere via the "Press Exhaust Stack", with a maximum capacity of 2.52 pounds per hour of ink.
- (c) One (1) air brush spray booth, exhausting to the atmosphere via the "Spray Booth Exhaust Stack", with a maximum capacity of 0.012 pounds per hour of ink.
- (d) One (1) Guardian Dryer, rated at 0.25 MMBtu/hr venting to the atmosphere.

The following conditions shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
 - (A) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (B) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (2) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the

air brush spray facilities shall not exceed 0.551 pounds per hour when operating at a process weight rate of 100 pounds per hour.

- (3) The Permittee shall maintain records in accordance with (A) through (C) below. Records maintained for (A) through (C) shall be taken monthly and shall be complete and sufficient to establish compliance with the Registration status.
- (A) The amount of volatile organic compounds (VOC) and hazardous air pollutants (HAPs) content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (B) The cleanup solvent usage for each month;
 - (C) The total VOC and HAP usage for each month;

Any change or modification which may increase the potential emissions to 25 tons per year or more of volatile organic compounds must be approved by the Office of Air Quality before any such change may occur. Additionally, any change or modification which may increase the potential emissions of a single HAP to greater than 10 tons per year or a combination of HAPs to greater than 25 tons per year must be approved by OAQ before such change may occur.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Compliance Branch
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

ERG/AR

cc: File - Marshall County
Marshall County Health Department
Air Compliance - Rick Reynolds
Northern Regional Office
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Branch - Karen Nowak
Office of Enforcement

Registration Annual Notification

This form should be used to comply with the notification requirements under **326 IAC 2-5.5-4(a)(3)**

Company Name:	Graphix Unlimited
Address:	3947 State Road 106
City:	Bremen, Indiana 46506
Authorized individual:	Gregg Erickson
Phone #:	219-546-3770
Registration #:	099-14590-00091

I hereby certify that **Graphix Unlimited** is still in operation and is in compliance with the requirements of Registration **099-14590-00091**.

Name (typed):
Title:
Signature:
Date:

October 4, 2001

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name: Graphix Unlimited
Source Location: 3947 State Road 106, Bremen, Indiana 46506
County: Marshall
SIC Code: 2759
Operation Permit No.: 099-14590-00091
Permit Reviewer: ERG/AR

The Office of Air Quality (OAQ) has reviewed an application from Graphix Unlimited relating to the construction and operation of a screen printing facility.

Permitted Emission Units and Pollution Control Equipment

There are no permitted emission units at this source.

Unpermitted Emission Units and Pollution Control Equipment

The source consists of the following unpermitted facilities/units:

- (a) One (1) Screen Preparation and Maintenance Department, exhausting to "Press Exhaust", with a maximum capacity of 6.83 pounds per hour of cleaners, adhesives and developers.
- (b) One (1) Screen Printing Department, exhausting to "Press Exhaust", consisting of Old PLS Printing Press, New PLS Printing Press, Large Kippax Printing Press, Small Cameo Printing Press, Lawson Printing Press, Husky Printing Press, Medium Patriot Printing Press, Small Patriot Printing Press, exhausting to "Press Exhaust", with a maximum capacity of 2.52 pounds per hour of ink.
- (c) One (1) air brush spray booth, exhausting to "Spray Booth Exhaust", with a maximum capacity of 0.012 pounds per hour of ink.
- (d) One (1) Guardian Dryer, rated at 0.25 MMBtu/hr.

New Emission Units and Pollution Control Equipment Receiving Prior Approval

There are no new construction activities included in this permit.

Existing Approvals

There are no existing approvals for this source.

Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
Press Exhaust	Screen Preparation & Maintenance Department (hand application of cleaners, emulsions & adhesives), and Screen Printing Department	23.3	2	5,000	68
Air Brush Spray Booth Exhaust	Air Brush Spray Booth	23.5	2	2,500	68

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on June 29, 2001.

Emission Calculations

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are provided in Appendix A of this document, pages 1 through 3.

Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.0002
PM-10	0.01
SO ₂	0.0007
VOC	11.78

Pollutant	Potential To Emit (tons/year)
CO	0.04
NO _x	0.10

HAP's	Potential To Emit (tons/year)
Glycol Ethers	8.45
TOTAL	8.89

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any criteria pollutants is less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any criteria pollutants is less than 25 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-6.1.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are greater than levels listed in 326 IAC 2-1.1-3(d)(1), therefore the source is subject to the provisions of 326 IAC 2-5.5.1.
- (d) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (e) This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2.

County Attainment Status

The source is located in Marshall County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Marshall County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Marshall County has been classified as attainment or unclassifiable for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

- (a) This source is not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.580, Subpart FFF) because this source does not use any rotogravure printing lines to print or coat flexible vinyl or urethane products.
- (b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), Subpart KK because this source is not a major source of hazard air pollutants (HAPs) and they do not operate a publication rotogravure, product and packaging rotogravure or wide-web flexographic printing press.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Marshall County and the potential to emit CO, VOC, No_x, PM₁₀, and SO₂ is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this screen printing facility will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 8-1-6 (New Facilities - General Reduction Requirement)

This source does not have potential VOC emissions equal to or greater than twenty five (25) tons per year, therefore this source is not subject to the provisions of 326 IAC 8-1-6.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the air brush spray facilities shall not exceed 0.551 pounds per hour when operating at a process weight rate of 100 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Conclusion

The construction and operation of this screen printing facility shall be subject to the conditions of the attached Registration 099-14590-00091.

SCREEN PREPARATION PRODUCTS

3.304706 TPY VOC from RhinoTech products

GREEN PREPARATION PRODUCTS																			3,304.78 (1) VOC from Rhinotech products			
Manufacturer	Product Name	Product No	Density	VOC	Constituent	CAS	Content	Percent Volatile	VOC	HAP	Unit Size	Unit Desc	Qty 1 mo	Qty Annual	Lbs/gal	#VOC/gal	Lbs VOC/yr	Screen Wash 140	Lbs HAPs/yr	HAP, PTs		
RhinoTech, Inc.	Screen Wash 140	SW 140	0.96	51%	p-series Glycol Ethers	mixture	51%	51%	TRUE	TRUE	1 gal	1 gal	100	1200 gal	8.01	4.09	4,902.85	Screen Wash 140	4,902.85	2.45	p-series Glycol Ethers	
RhinoTech, Inc.	Haze Remover 2450	HR 2450	1.135	75%	Sodium Hydroxide	1310-73-2	20%	75%	FALSE	FALSE	1 gal	1 gal	20	240 gal	9.47	7.10	1,704.88	Haze Remover 2450				
RhinoTech, Inc.	Haze Remover 2450	HR 2450	1.135	75%	p-series Glycol Ethers	mixture	40%	75%	TRUE	TRUE	1 gal	1 gal	20	240 gal	9.47			Haze Remover 2450	909.27	0.45	p-series Glycol Ethers	
RhinoTech, Inc.	Haze Remover 2450	HR 2450-1	1.135	75%	2-Pyridinolone, 1-Methyl	872-50-4	15%	75%	TRUE	TRUE	1 gal	1 gal	20	240 gal	9.47			Haze Remover 2450				
RhinoTech, Inc.	Rhino Mite 3000 Adhesive	RhinoMite 3000	1.32	0.11%	Methylene Chloride	75-09-2	0.00001%	0.1%	TRUE	TRUE	1 gal	1 gal	12	144 gal	11.02	0.01	1.68	Rhino Mite 3000 Adhesive	0.00	0.00	Methylene Chloride	
RhinoTech, Inc.	Press Wash 118	PW 118	0.89	100%	Petroleum Distillate	64742-95-4	35%	100%	TRUE	FALSE	1 gal	100	1200 gal	7.43	7.43			Press Wash 118				
RhinoTech, Inc.	Press Wash 118	PW 118	0.89	100%	p-series Glycol Ethers	proprietary	65%	100%	TRUE	TRUE	1 gal	100	1200 gal	7.43				Press Wash 118	5,793.10	2.90	p-series Glycol Ethers	
Superior	Acetone	Acetone	0.792	0%	Acetone	67-64-1	100%	0%	FALSE	FALSE	365 lb	8	3185.5 lb	6.61		0.00	-	Acetone				
3M	Film Cleaner	Cleaner	0.75	100%	Naphthol Spirits	64742-48-6	100%	100%	TRUE	FALSE	1 gal	2	2.2 gal	6.26	6.26	13.66		Film Cleaner				
3M	Film Developer	QRD-1	0.75	95%	Naphthol Spirits	64742-48-6	100%	100%	TRUE	FALSE	2.5 gal	8	21.8 gal	6.26	5.95	129.73		Film Developer				
Sericol	Sericol Ink Reducer	Sericol Solvent	1.08	1%	Vinyl Monomer	0%	100%	FALSE	FALSE	FALSE	1 gal	401	437.5 gal	9.01	0.09	39.43		Sericol Ink Reducer				
Sericol	Sericol Ink Reducer	Sericol Solvent	1.08	1%	Acrylate Ester	0%	100%	FALSE	FALSE	FALSE	1 gal	401	437.5 gal	9.01				Sericol Ink Reducer				
Sericol	Sericol Ink Reducer	Sericol Solvent	1.08	1%	Acrylate Ester	48145-04-6	0%	100%	FALSE	FALSE	FALSE	1 gal	401	437.5 gal	9.01				Sericol Ink Reducer			
The Chromaline Corporation	UDC-3 Water Based Emulsion	UDC-3	1.06	0%	Acrylate Oligomers	0%	100%	FALSE	FALSE	FALSE	1 gal	212	231.3 gal	8.85	0	-	UDC-3 Water Based Emulsion					
The Chromaline Corporation	UDC-3 Water Based Emulsion	UDC-3	1.06	0%	Acrylate Monomers	0%	100%	FALSE	FALSE	FALSE	1 gal	212	231.3 gal	8.85	0	-	UDC-3 Water Based Emulsion					
The Chromaline Corporation	UDC-3 Water Based Emulsion	UDC-3	1.06	0%	Phenotinators	0%	100%	FALSE	FALSE	FALSE	1 gal	212	231.3 gal	8.85	0	-	UDC-3 Water Based Emulsion					
Autotype Americas Inc.	UMPA Mesh Prep	UMPA-4	1	0%	Non Hazardous	0%	100%	FALSE	FALSE	FALSE	1 gal	147	166.4 gal	8.35	0	-	UMPA Mesh Prep					
Conap	Urethane Part A	Urethane A	1.06	0%	Hydrogenated MDI	25973-55-6	0.6%	0%	FALSE	FALSE	165 gal	3.5	630 gal	8.85	0	-	Urethane Part A					
Conap	Urethane Part A	Urethane A	1.06	0%	Methylene bis (4-cyclohexylisocyanate)	5124-30-1	50%	0%	FALSE	FALSE	165 gal	3.5	630 gal	8.85	0	-	Urethane Part A					
Conap	Urethane Part B	Urethane B	1.06	0%	2-(2-Hydroxy-3,5-di-tert-amy)phenyl	25973-55-6	0.6%	0%	FALSE	FALSE	165 gal	3.5	630 gal	8.85	0	-	Urethane Part B					
																			Calculation of HAPs (lbs/yr)			
																			total p-series Glycol Ethers			
																			1.93 lbs/yr			
																			total Methylene Chloride			
																			0.00 lbs/yr			
																			total Ethylene Glycol Monobutyl Ether			
																			0.100368 lbs/yr			

INK PRODUCTS

Supplier	Product Name	Mfr Part Number	Specific Gravity	Percent VOC	Constituent	CAS Number	Percent of Product	Percent Volatile	VOC	HAP	Unit Size	Unit#	Qty 11 mo	Qty Annual	Lbs/gal	#VOC/gal	Lbs VOC/yr	8900 Series Poly Screen Ink	112.4117	0.056206	Ethylene Glycol Monobutyl Ether	Total lbs/yr
Nazdar	9800 Series Poly Screen Ink	Solvent Ink	0.98	64.6%	Ethylene Glycol Monobutyl Ether	111-76-2	42.00%	100.00%	TRUE	TRUE	1 gal	30	32.7 gal	8.18	5.285506	172.98	8900 Series Poly Screen Ink	267.65				
Nazdar	9800 Series Poly Screen Ink	Solvent Ink	0.98	64.6%	Carbon Black	1333-86-4	5.00%	0.00%	FALSE	FALSE	1 gal	30	32.7 gal	8.18			9800 Series Poly Screen Ink					
Nazdar	9800 Series Poly Screen Ink	Solvent Ink	0.98	64.6%	Isopropanol	67-63-0	7.00%	100.00%	TRUE	FALSE	1 gal	30	32.7 gal	8.18			9800 Series Poly Screen Ink					
Nazdar	9800 Series Poly Screen Ink	Solvent Ink	0.98	64.6%	Pigments		10.00%	0.00%	FALSE	FALSE	1 gal	30	32.7 gal	8.18			9800 Series Poly Screen Ink					
Nazdar	9800 Series Poly Screen Ink	Solvent Ink	0.98	64.6%	Silica	112926-00	0.00%	0.00%	FALSE	FALSE	1 gal	30	32.7 gal	8.18			9800 Series Poly Screen Ink					
Nazdar	9800 Series Poly Screen Ink	Solvent Ink	0.98	64.6%	Titanium Dioxide	13463-67-2	24.00%	0.00%	FALSE	FALSE	1 gal	30	32.7 gal	8.18			9800 Series Poly Screen Ink					
Nazdar	9800 Series Poly Screen Ink	Solvent Ink	0.98	64.6%	Resin Mixture		36.00%	0.00%	FALSE	FALSE	1 gal	30	32.7 gal	8.18			9800 Series Poly Screen Ink					
Nazdar	9800 Series Poly Screen Ink	Solvent Ink	0.98	64.6%	Petroleum Distillates	8052-41-3	3.00%	100.00%	TRUE	FALSE	1 gal	30	32.7 gal	8.18			9800 Series Poly Screen Ink					
Nazdar	9800 Series Poly Screen Ink	Solvent Ink	0.98	64.6%	Ethylene Glycol Monopropyl Ether	2807-30-9	33.00%	100.00%	TRUE	TRUE	1 gal	30	32.7 gal	8.18			9800 Series Poly Screen Ink	88.32348	0.044162	Ethylene Glycol Monopropyl Ether		
Nazdar	3600 UV Decal Screen Ink	Nazdaruv	1.09	3%	Pigments		0.00%	0.00%	FALSE	FALSE	1 gal	107	116.7 gal	9.10	0.272882	31.85	3600 UV Decal Screen Ink	1,061.76				
Nazdar	3600 UV Decal Screen Ink	Nazdaruv	1.09	3%	Photoinitiators		0.00%	0.00%	FALSE	FALSE	1 gal	107	116.7 gal	9.10			3600 UV Decal Screen Ink					
Nazdar	3600 UV Decal Screen Ink	Nazdaruv	1.09	3%	2H-Azepin-2-One, 1-Ethenylhexahydro	2235-00-9	0.00%	0.00%	FALSE	FALSE	1 gal	107	116.7 gal	9.10			3600 UV Decal Screen Ink					
Nazdar	3600 UV Decal Screen Ink	Nazdaruv	1.09	3%	Resin Mixture		0.00%	0.00%	FALSE	FALSE	1 gal	107	116.7 gal	9.10			3600 UV Decal Screen Ink					
Nazdar	3600 UV Decal Screen Ink	Nazdaruv	1.09	3%	Titanium Dioxide	13463-67-2	0.00%	0.00%	FALSE	FALSE	1 gal	107	116.7 gal	9.10			3600 UV Decal Screen Ink					
Nazdar	3600 UV Decal Screen Ink	Nazdaruv	1.09	3%	Acrylates		0.00%	0.00%	FALSE	FALSE	1 gal	107	116.7 gal	9.10			3600 UV Decal Screen Ink					
Nazdar	3600 UV Decal Screen Ink	Nazdaruv	1.09	3%	Calcium Carbonate		0.00%	0.00%	FALSE	FALSE	1 gal	107	116.7 gal	9.10			3600 UV Decal Screen Ink					
Sericol	UV Ink	Sericol Ink	1.26	1%	Acrylate Ester		0.00%	100.00%	FALSE	FALSE	1 gal	1201	1310.2 gal	10.51	0.105147	137.76	UV Ink	#####				
Sericol	UV Ink	Sericol Ink	1.26	1%	Photoinitiators		0.00%	100.00%	FALSE	FALSE	1 gal	1201	1310.2 gal	10.51			UV Ink					
Sericol	UV Ink	Sericol Ink	1.26	1%	Acrylate Urethane		0.00%	100.00%	FALSE	FALSE	1 gal	1201	1310.2 gal	10.51			UV Ink					
Sericol	UV Ink	Sericol Ink	1.26	1%	Acrylated Amine		0.00%	100.00%	FALSE	FALSE	1 gal	1201	1310.2 gal	10.51			UV Ink					
Sericol	UV Ink	Sericol Ink	1.26	1%	Acrylate Ester	48145-04-6	0.00%	100.00%	FALSE	FALSE	1 gal	1201	1310.2 gal	10.51			UV Ink					
Sericol	UV Ink	Sericol Ink	1.26	1%	Vinyl Monomer		0.00%	100.00%	FALSE	FALSE	1 gal	1201	1310.2 gal	10.51			UV Ink					

SOURCE-WIDE PTE (excepting emissions from process heat @ 250,000 Btu/hr)

Stack	PTE, TPY		PTE, TPY VHAP
	VOC, lbs/hr	HAP#/hr	
Press Exhaust	2.67	1.97	8.62
Spray Booth Exhaust	0.0072	0.0084	0.04

8.65 PTE, TPY VHAP

Appendix A: Emission Calculations

Page 2 of 3 TSD App A

Calculations Provided by Source Scaled Up to 8,760 hr/yr

Company Name: Graphix Unlimited
Address City IN Zip: 3947 State Road 106, Bremen, Indiana 46506
CP: 099-14590
Plt ID: 099-00091
Reviewer: ERG/AR
Date: 13-Jul-01

NATURAL GAS: EMISSIONS:					TPY @ 8760			
lbs/million cu ft natural gas					lbs/hour	hrs/yr	hrs/yr	hours/year
SO2	0.6	0.00025	million cu ft gas/hr	SO2	0.00015	4380	8760	0.001
NOX	94	0.00025	million cu ft gas/hr	NOX	0.0235	4380	8760	0.103
CO	40	0.00025	million cu ft gas/hr	CO	0.01	4380	8760	0.044
N2O	N/A	0.00025	million cu ft gas/hr	N2O	N/A	4380	8760	N/A
Filterable PM	0.17	0.00025	million cu ft gas/hr	Filterable PM	4.25E-05	4380	8760	0.000
Condensable PM	11	0.00025	million cu ft gas/hr	Condensable PM	0.00275	4380	8760	0.012
CO2	0.000012	0.00025	million cu ft gas/hr	CO2	3E-09	4380	8760	0.000
TOC	11	0.00025	million cu ft gas/hr	TOC	0.00275	4380	8760	0.012
(Total Organic Compounds)								
Based on 1000 Btu/scf								
250,000 Btu								
250 Cubic feet of natural gas per hour								

Total particulate per hour (lbs MAX): 0.002793

cfm of exhaust: 150 (approx)

cubic ft/hr exhaust: 9000

grains/hr particulate: 19.5475

grains/dscf: 0.002172

Carbon Monoxide (lbs/hr) 0.01

Carbon Monoxide (tons/year @ 8,760 hrs/yr) 0.0438

Appendix A: Emission Calculations

Page 3 of 3 TSD App A

Calculations Provided by Source Scaled Up to 8,760 hr/yr
Company Name: Graphix Unlimited
Address City IN Zip: 3947 State Road 106, Bremen, Indiana 46506
CP: 099-14590
Plt ID: 099-00091
Reviewer: ERG/AR
Date: 13-Jul-01

1. Screen Preparation & Maintenance Department

Product Name	lbs/hr	tons/year	VOC, lbs/hr	VOC tons/yr	VHAP, lbs/hr	VHAP tons/yr
Screen Wash 140	1.60	7.01	0.82	3.59	0.82	3.59
Haze Remover 2450	0.38	1.66	0.28	1.23	0.15	0.66
Rhino Mite 3000 Adhesive	0.26	1.14	0.00	0.00	0.00	0.00
Press Wash 118	1.49	6.53	1.49	6.53	0.97	4.25
Film Cleaner	0.00	0.01	0.00	0.01	-	-
Film Developer	0.02	0.09	0.02	0.09	-	-
Sericol Ink Reducer	0.66	2.89	0.01	0.04	-	-
UDC-3 Water Based Emulsion	0.34	1.49	-	-	-	-
UMP4 Mesh Prep	0.22	0.96	-	-	-	-
Urethane Part A	0.93	4.07	-	-	-	-
Urethane Part B	0.93	4.07	-	-	-	-
Total Products	6.83	29.93	2.62	11.49	1.94	8.50

2. Screen Printing Department

Product Name	lbs/hr	tons/year	VOC, lbs/hr	VOC tons/yr	VHAP, lbs/hr	VHAP tons/yr
9800 Series Poly Screen Ink	0.04	0.18	0.03	0.13	0.03	0.13
3600 UV Decal Screen Ink	0.18	0.79	0.01	0.04	-	-
UV Ink	2.30	10.07	0.02	0.09	-	-
Total Products	2.52	11.04	0.06	0.26	0.03	0.13

3. Air Brush Spray Booth

Product Name	lbs/hr	tons/year	VOC, lbs/hr	VOC tons/yr	VHAP, lbs/hr	VHAP tons/yr
9800 Series Poly Screen Ink	0.01	0.05	0.01	0.03	0.01	0.04
Total Products	0.01	0.05	0.01	0.03	0.01	0.04

4. Guardian Dryer (combustion appliance)

Pollutant	lbs/hr	tons/yr
SO ₂	1.50E-04	6.57E-04
No _x	0.02	0.10
CO	0.01	0.04
N ₂ O	N/A	N/A
Filterable PM	4.25E-05	1.86E-04
Condensable PM	2.75E-03	0.01
CO ₂	3.00E-09	1.31E-08
Total Organic Compounds	2.75E-03	0.01

Total Emissions

Pollutant	tons/yr
PM	1.86E-04
PM10	0.01
SO ₂	6.57E-04
VOC	11.78
CO	0.04
Nox	0.10
VHAP	1.98
Glycol Ethers	8.45
Total HAP	8.89